

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm., Summer 2017-18 Examination

Semester: 3
Subject Code: 08101203
Subject Name: Physical Pharmaceutics

Date: 18/05/2018
Time: 2:00pm to 5:00pm
Total Marks: 75

Instructions:

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)

1. Define rheology. Discuss in a brief Non-Newtonian system.
2. What is emulsifying agent? Discuss the signs of instability in emulsion and suggest the preservative measure.
3. Define surface tension and interfacial tension. Enlist the methods for determination of surface and interfacial tension. Explain capillary rise method in detail.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)

1. Explain phase diagram for one component system.
2. Write a note on liquefaction of the gases.
3. Explain solubility of gases in liquids.
4. Write a note on distribution of solutes between immiscible solvents.
5. Explain the concept of Donnan membrane with a suitable example and equation.
6. Differentiate between flocculated suspension and deflocculated suspension.
7. Describe air permeability method for the determination of surface area of powder with a neat diagram.
8. Enumerate the derived properties. Discuss porosity and packaging arrangement.
9. Give classification of inclusion complexes. Explain any two in detail.

Q.3 Answer in short. (2 marks each) (20)

1. Comment on and justify: For Newtonian fluids, the slope of a rheogram is one.
2. Define: Plug flow and rheopexy.
3. Write statement of phase rule.
4. Describe importance of polymorphism with example.
5. Define solubility. Enlist factors affecting solubility of solid in liquids.
6. What is particle number? Derive its equation.
7. Define 'complex compounds'. Enlist the methods of identifying complexes.
8. Discuss Werner's postulates with the help of suitable diagram.
9. What is HLB? Give applications of HLB scale.
10. Define adsorption isotherms. Plot the different types of adsorption isotherms.